Mabbett & Associates, Inc.
Environmental Consultants & Engineers

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June 9, 2011

Mr. J. Patrick Saunders
President
Saunders Architects-Engineers
5105 DTC Parkway, Suite 250
Greenwood Village, CO 80111

Subject: Limited Asbestos and Lead Inspection
Bedford VA Medical Center, Building 22, Boiler Plant
Mabbett Project No. 2011012.001

Dear Mr. Saunders:

Introduction

Mabbett & Associates, Inc. (Mabbett) received a request from Saunders Architects-Engineers (Saunders) to conduct a pre-demolition survey for asbestos and lead from materials likely to be disturbed at Building 22 at the Bedford VA Medical Center (VAMC) in Bedford, MA. This work was performed as part of the Boiler Plant Project to Correct Structural Deficiencies. A project demolition drawing was provided by Saunders and detailed the extent of the work and was used as the basis for the inspection and sample locations.

Mabbett performed the survey in accordance with the terms of the Mabbett proposal dated May 24, 2011, authorized by Saunders May 25, 2011. Included in the survey were suspected asbestos-containing materials (ACM) and suspected lead-based paint (LBP). This report and accompanying attachments summarize the assessment methodologies, observations, results, interpretations and recommendations from the survey.

Methodologies

Michael Delaney and Jonathan Nicoll of Mabbett, Massachusetts licensed and trained asbestos inspectors, conducted the survey on June 1, 2011. Representative bulk building material samples were collected to identify ACM. Under a previous contract with the VA Mabbett had recently screened painted surfaces utilizing an X-Ray Fluorescence (XRF) analyzer to identify those components that may contain lead based paint in Building 22.

Summary of Asbestos Inspection Findings

A total of seventeen bulk samples were collected for asbestos analysis during the inspection. The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) using EPA Method 600/R-93/116. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0).

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The Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos. Three of the sampled materials were determined to contain asbestos. Please refer to the attached laboratory report (Attachment A) for a complete summary of all sample results.

The following table contains those representative materials that were found to contain ≥ 1% asbestos. Attachment B contains representative photos of the ACM identified.

Material Description	Location	Estimated Quantity
Black Waterproofing	Below Two (2) Windows at Roadway Level	20 Linear Feet
Old Window Caulking	Perimeter of Two (2) Windows	60 Linear Feet
Window Glazing	Interior of Two (2) Windows	224 Linear Feet

Summary of Lead-Based Paint Results

Lead screening was performed by a trained lead screener using a Niton XLp 303A XRF (serial number 18580). This method gives lead concentration results in mg/cm^2. The following table contains a total of five representative paint screenings which were previously measured on surfaces likely to be disturbed during this project:

Substrate and Component	Location	Color	Results (mg/cm^2)
Metal Window Casing	Exterior	Gray	7.4
Metal Window Sash	Exterior	Gray	25
Metal Window Sash	Interior	Gray	19.4
Block Wall	Interior	White	5.8
Block Wall	Interior	Blue	0

Recommendations

ACM in the form of black waterproofing and window caulking and glazing was identified in the surveyed areas expected to be impacted by the project. ACM that will be disturbed during renovations must be removed in advance by a properly licensed abatement company and in accordance with EPA, state, and local regulations. Project specifications for removal/abatement of ACM should be prepared by a Massachusetts licensed asbestos Project Designer. The abatement procedures are detailed in 310 CMR 7.15(c) Procedures for Asbestos Emission Control. Procedures include but are not limited to creating a regulated area, putting in place barriers, wet removal of material, final cleaning, and disposal of asbestos waste at approved landfill. The procedures should also be consistent with VA directives and specifications.

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A concentration of lead greater than or equal to 1.0 mg/cm^2 exceeds U.S. Housing and Urban Development (HUD) residential standards and is an indicator of risk. However, OSHA does not specify a safe level of lead in lead containing paint for worker protection. Any renovation work that could disturb these surfaces must be conducted in accordance with OSHA worker protection requirements established in 29 CFR 1926.62 and any other applicable Federal, state and local requirements. A lead based paint determination can not determine a safe level of lead but is intended to provide guidance as to the locations and lead content of painted surfaces. Contractors may then better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces.

We appreciate the opportunity to support Saunders and the Bedford VAMC on this project. If you should have any questions, require any further information, or need assistance preparing and designing asbestos abatement specifications please contact me at (781) 275-6050.

Sincerely

MABBETT & ASSOCIATES, INC.

BY:

Michael F. Delaney
Project Manager
Massachusetts Asbestos Inspector AI031436
Massachusetts Asbestos Designer AD000020

Enclosures: Attachment A – Summary of Asbestos Bulk Sample Results
Attachment B – Photographs

cc: SSS (MF)

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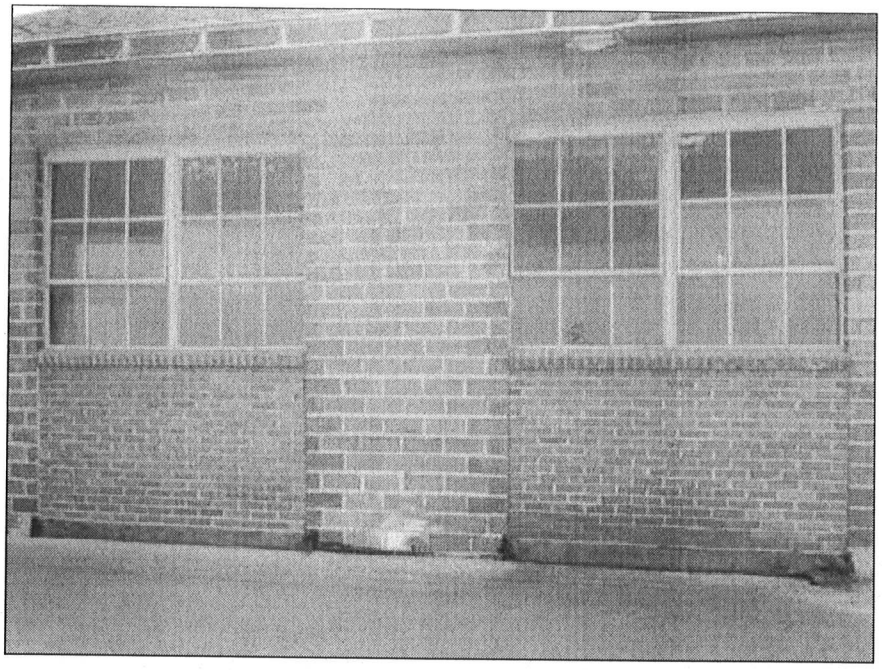
ATTACHMENT A

Asbestos Bulk Sample Results

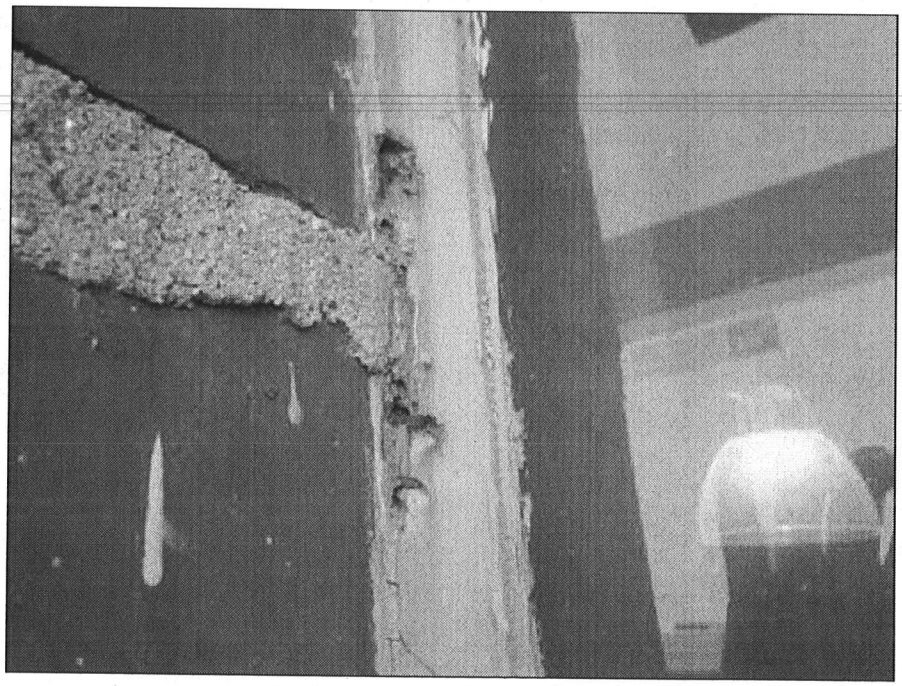
(Final lab report will be provided when received)

ATTACHMENT B

Photographs



Black Waterproofing



Old Window Caulking

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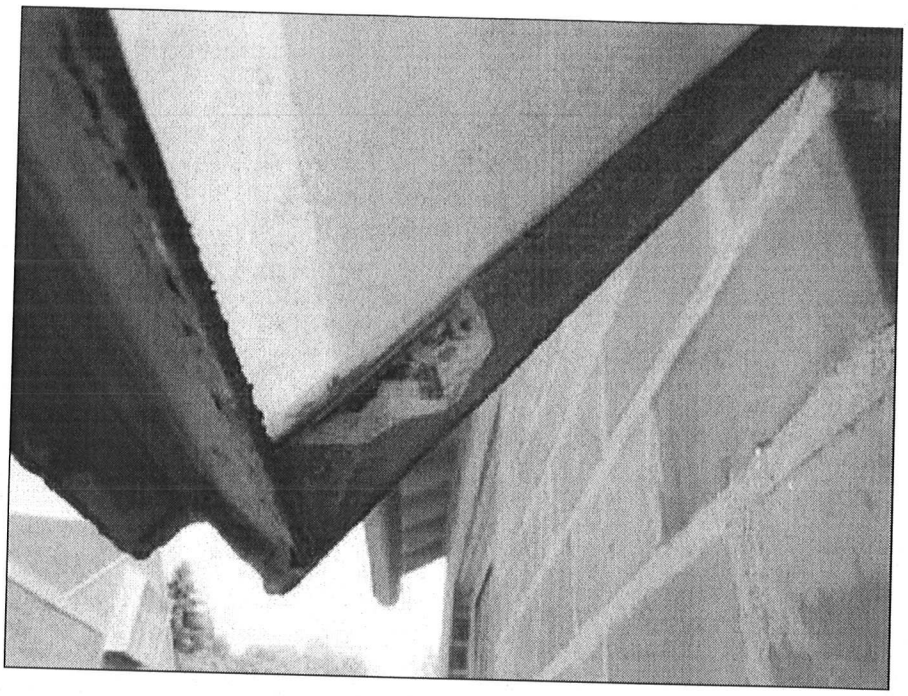

Window Glazing

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ProScience Analytical Services, Inc.

Client Name: Mabbett & Associates, Inc.
PO #: 4703
Client Project #: 2011012.001
Client Reference: Bedford VAMC - Building 22
Method: EPA/600/R-93/116

Batch: B75437
Date Sampled: 6/1/2011
Date Received: 6/2/2011
Date Analyzed: 6/6/2011
Date of Report: 6/29/2011

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01A	Black	TR	0	0	0	0	0	10	0	0	0	0	0	90

Description: Black Waterproofing
Location: N/A
Comments:
Is asbestos present? Yes. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01B	Black	20	0	0	0	0	0	0	0	0	0	0	0	80

Description: Black Waterproofing
Location: N/A
Comments:
Is asbestos present? Yes. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02A	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: New Window Caulking
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02B	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: New Window Caulking
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03A	Gray	5	0	0	0	0	0	0	0	0	0	0	0	95

Description: Old Window Caulking
Location: N/A
Comments:
Is asbestos present? Yes. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03B		0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Old Window Caulking
Location: N/A
Comments:
Analyzed: No

ProScience Analytical Services, Inc.

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Client Project #: 2011012.001
Client Reference: Bedford VAMC - Building 22
Method: EPA/600/R-93/116

Batch: B75437
Date Sampled: 6/1/2011
Date Received: 6/2/2011
Date Analyzed: 6/6/2011
Date of Report: 6/29/2011

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04A	Tan	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Window Glazing
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04B	Multi	5	0	0	0	0	0	0	0	0	0	0	0	95

Description: Window Glazing
Location: N/A
Comments:
Is asbestos present? Yes. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05A	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Brown Expansion Joint Caulking
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05B	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Brown Expansion Joint Caulking
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
06A	Dk. Gray	0	0	0	0	0	0	TR	0	0	0	0	0	100

Description: Gray Expansion Joint Caulking
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
7A	Black	0	0	0	0	0	0	10	0	0	0	0	0	90

Description: Top Layer Roof Shingle
Location: N/A
Comments:
Is asbestos present? No. Analyzed: Yes

ProScience Analytical Services, Inc.

Client Name: Mabbett & Associates, Inc.
PO #: 4703
Client Project #: 2011012.001
Client Reference: Bedford VAMC - Building 22
Method: EPA/600/R-93/116

Batch: B75437
Date Sampled: 6/1/2011
Date Received: 6/2/2011
Date Analyzed: 6/6/2011
Date of Report: 6/29/2011

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
7B	Black	0	0	0	0	0	0	10	0	0	0	0	0	90

Description: Top Layer Roof Shingle
Location: N/A
Comments:

Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
8A	Black	0	0	0	0	0	0	5	0	5	0	0	0	90

Description: Bottom Layer Roof Shingle
Location: N/A
Comments:

Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
8B	Black	0	0	0	0	0	0	5	0	5	0	0	0	90

Description: Bottom Layer Roof Shingle
Location: N/A
Comments:

Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
9A	Black	0	0	0	0	0	0	0	0	50	0	0	0	50

Description: Roofing Paper
Location: N/A
Comments:

Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
9B	Black	0	0	0	0	0	0	0	0	70	0	0	0	30

Description: Roofing Paper
Location: N/A
Comments:

Is asbestos present? No. Analyzed: Yes

Asbestos Codes: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite
Non-Asbestos Codes: FBG = Fiberglass MNW = Mineral Wool CEL = Cellulose HAR = Hair SYN = Synthetic OTH = Other NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

Analyst: Dan Pine Valerie Haun

* All results are in percentage.

ProScience Analytical Services, Inc.
ProScience PLM Asbestos Chain of Custody Record

Client Name:
Project # / Ref:

Batch:
Analyst:

ProScience Analytical Services, Inc.

PLM Asbestos Chain of Custody Record

LABORATORY/HEADQUARTERS
22 Cummings Park, Woburn, MA 01801
T:781-935-3212 F:781-932-4857

LABORATORY SERVICES
683 North Mountain Rd., Newington, CT 06111
T:860-953-1022 F:860-953-1030

☐ **RUSH**

Turn Around Time Requested

☐ Same day ☐ 24 Hour ☒ 48 Hour ☐ 72 Hour ☐ 5 Days

Client: Mabbett & Associates, Inc.
Address: 5 Alfred Circle, Bedford, MA 01730
Project Site & Bldg: Bedford VAMC - Building 22
Project #: 2011012.001
Phone / FAX Number: 781-275-6050 / 781-275-5651
Contact: Mike Delaney, delaney@mabbett.com

PO # 4703

Relinquished by/date: M. Delaney 6/2/11
Received by/date: Kathy Astone 6-2-11 4:50pm
Samples received: 17 Analyzed:
Faxed, E-mailed, Verbal by/date: H.W.KA 6-6
Stop on first positive: Yes

For Lab Use> **Batch #** B75437

Analyzed by/date: DNA 6/6/11 QC by/date:

Lab ID	Field ID	Sample Date	Description	Stereo Scope: % Asbestos	Color	Homogeneity	Texture	Friable	Optical Properties: Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: II	RI: ⊥	Asbestos Percentage (%): Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Non Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non Fibrous
	01A -	6/1/11	Black Waterproofing	0	B	N	F	N	W	P	+	L	N	1.554	1.550	TR						I						
					K		I															10						90
	01B -	6/1/11	Black Waterproofing	0	B	N	F	N	W	P	+	L	N	1.554	1.550	20												
					K		I																					80
	02A -	6/1/11	New Window Caulking	0	BR	N	F	N														(G)						
					G		I															TR						100
	02B -	6/1/11	New Window Caulking	0	B	N	F	N																				
					R		I																					100
	03A -	6/1/11	Old Window Caulking	0	G	N	F	N	W	P	+	L	N	1.554	1.550	5												
					Y		I																					95
	03B -	6/1/11	Old Window Caulking																									

DNA

Comments: Birefringence L= less than .010, M= .011-.029, H= greater than .03: Microscope Olympus BH-2, Serial # circle 1- 242277, 229027, 235000, 230663

Relinquished By: Date: 6/2

DNA

ProScience Analytical Services, Inc.
ProScience PLM Asbestos Chain of Custody Record B75437

Client Name:
Project # / Ref: D[illegible] 6/6/11

Batch:
Analyst:

Lab ID	Field ID	Sample Date	Description	% Asbestos	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥	⊥	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non Fibrous
	04A -	6/1/11	Window Glazing	0	T	Y	G	N																				100
	04B -	6/1/11	Window Glazing	0	MC	N	B	N	W	∥	+	L	W	1.504	100	5												95
	05A -	6/1/11	Brown Expansion Joint Caulking	0	BR	Y	R	N																				100
	05B -	6/1/11	Brown Expansion Joint Caulking	0	BR	Y	R	N																				100
	06A -	6/1/11	Gray Expansion Joint Caulking	0	DK GY	Y	R	N														I TR						100
	7A -	6/1/11	Top Layer Roof Shingle	0	BK	N	F I GN															I 10						90
	7B -	6/1/11	Top Layer Roof Shingle	0	BK	N	F I GN															I 10						90
	8A -	6/1/11	Bottom Layer Roof Shingle	0	BK	N	F I GN															I 5		W 5				90
	8B -	6/1/11	Bottom Layer Roof Shingle	0	BK	N	F I GN															I 5		W 5				90
	9A -	6/1/11	Roofing Paper	0	BK	Y	F	N																W 50				50

Circle Type

Relinquished By:________ Date: 6/2

Comments: Birefringence L= less than .010, M= .011-.029, H= greater than .03: Microscope Olympus BH-2, Serial # circle 1- 242277, 229027, 235000, 230663

Page 2 of 3

ProScience Analytical Services, Inc.
ProScience PLM Asbestos Chain of Custody Record

B75437

Client Name:
Project # / Ref:

6/6/11

Batch:
Analyst:

Lab ID	Field ID	Sample Date	Description	% Asbestos	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥	⊥	Chrysotile	Amosite	Circle Type: Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non Fibrous
	9B -	6/1/11	Roofing Paper	0	BK	y	F/fn																	W				
																								70				30

Comments: Birefringence L= less than .010, M= .011-.029, H= greater than .03: Microscope Olympus BH-2, Serial # circle 1- 242277, 229027, 235000, 230663

Relinquished By: _____ Date: 6/2